#17

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re.:	Patent Application of Peter Watts	Group Art Unit: 1615
Conf. No.:	5106	
Appln. No.:	09/749,152	
Filed:	December 27, 2000	
Title:	COLONIC DRUG DELIVERY COMPOSITION	Attorney Docket No. **10774-21U1** **(WESZ/P14089U1)** **(P-0129)**

REQUEST FOR RECONSIDERATION

This Request for Reconsideration is provided in response to the Examiner's Office Action mailed August 19, 2002 (Paper No. 22). This Request for Reconsideration is timely filed on December 19, 2002, in view of the Petition for a one-month extension of time, extending the time for response up to and including December 19, 2002. Such Petition is enclosed herewith.

REMARKS

Claims 1-17 are pending in the application. The Examiner has withdrawn claims 14-17, asserting that such claims were constructively non-elected. Claims 1-13 stand rejected.

The applicant thanks the Examiner for her consideration of applicant's request for a non-final Office Action, and issuance of the same.

I. Election/Species Restriction.

At page 2 of Paper No. 22, the Examiner has asserted that newly submitted claims 14-17 recite drugs, each of which are "distinct species from the originally claimed drug." The applicant agrees to the election of a single species for prosecution on the merits that is a vaccine

for delivery to the lymphoid tissue of the colon, with the understanding that the Examiner will examine the generic claim 1 with respect to the elected species as set forth above, and upon finding such subject matter allowable, the Examiner will examine the claims directed to each of the non-elected species until all have been found to be allowable.

II. **Double Patenting.**

At page 3 of Paper No. 22, the Examiner has rejected claims 1-13 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 6,228,396.

While not necessarily agreeing with the Examiner's determination, the applicant agrees to submit a Terminal Disclaimer to facilitate the prosecution of the application when all other rejections have been withdrawn.

III. **Rejections Under 35 U.S.C. § 102(a) Based Upon U.S. Patent No. 5,672,359 and U.S. Patent No. 5,656,290, Each Taken Individually.**

At page 4 of Paper No. 22, the Examiner has rejected claims 1 and 9-11 under 35 U.S.C. § 102(a) as being anticipated by U.S. Patent No. 5,672,359 of Digenis. At page 4, the Examiner has rejected claims 1-13 under 35 U.S.C. § 102(a) based upon U.S. Patent No. 5,656,290 (Kelm '290). The applicant traverses each of these rejections.

Neither Digenis nor Kelm '290 are prior art to this application under 35 U.S.C. § 102(a). Under § 102(a), a person is entitled to a patent unless the invention was patented in this country more than one year prior to the date of the application for the patent in the United States.

Digenis was patented on September 30, 1997. Kelm '290 was patented on August 12, 1997. The present application is a continuation of prior U.S. Patent Application Serial No. 08/765,347 filed February 10, 1997, which in turn is a § 371 entry of International Patent Application No. PCT/GB95/01458 (filed June 21, 1995), which itself claims priority to United Kingdom application GB 9412394.0, filed June 21, 1994. Because the effective date of the present application is well before the patent dates of either Digenis or Kelm '290, nether is properly cited as prior art to this application under § 102(a).

It is respectfully requested that the Examiner withdraw the rejections.

IV. Rejections Under 35 U.S.C. § 103(a) Over Kelm '290 and McNeill.

The Examiner has rejected claims 1-13 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Kelm '290 and U.S. Patent No. 5,342,624 of McNeill ("McNeill"). As basis for the rejection, the Examiner asserts that Kelm teaches a pharmaceutical dosage form for colonic delivery that comprises a drug encapsulated in a gelatin capsule which begins to dissolve at a pH of above 5, and which is coated with a copolymer of methacrylic acid, methylmethacrylate, and cellulose derivatives. The Examiner states that the Kelm reference cannot be relied upon for the teaching of a starch capsule. McNeill, according to the Examiner, teaches a hard gelatin capsule or starch capsule as a "conventional class of capsules." Thus, the Examiner posits that the gelatin capsule and the starch capsule are "substantially equivalent" and it would have been obvious for one of skill in the art to modify Kelm's capsule by substituting the starch capsule. The applicant respectfully traverses the rejection.

As threshold matter, the applicant notes that it is not precisely clear whether the Examiner is applying Kelm '290 or Kelm '106 in her underlying reasoning for this § 103 rejection. Because the Examiner expressly states that "Kelm is relied upon for the reasons stated above," the applicant has assumed that the Kelm reference referred to in this rejection is Kelm '290, which is the reference "above." If the applicant's assumption is correct, he requests that the Examiner expressly state which Kelm reference she is relying upon, and not make such rejection final.

Further, the applicant submits that in view of the arguments submitted below the claims are patentable over the Kelm'290-McNeill combination. However, the presentation of such arguments is in no way an admission that the references cited are prior art under any subsection of § 102(e). The applicant reserves the right to assert that Kelm '290 is not prior art to the present application in a future response, one he has had an opportunity to secure copies of the ancestor applications from which Kelm '290 claims the benefit of priority.

In order to establish a case of *prima facie* obviousness, the Examiner must demonstrate: (i) that the combination of references teaches or suggests each element of the invention as claimed; (ii) that a person of ordinary skill would have been motivated to make the combination suggested by the inventor; and (iii) that a person of ordinary skill would have had a

reasonable expectation that such combination be successful. In the present case, the Examiner has failed to show that the claimed invention is rendered obvious by the combination.

Kelm '290 teaches a pharmaceutical composition in unit dosage form that includes bisacodyl incorporated into or coated on the surface of a dosage form which is coated with an enteric polymer layer. The enteric polymer layer is made of at least two layers, and each layer is made of a different polymer that dissolves at a different pH. Kelm teaches that the dosage unit for use in the pharmaceutical composition is a soft gelatin capsule, a molded spherical substrates, an elliptical substrate, a sphere, a hard capsule without edges and having flat seals, and a compressed tablet. No teaching of starch capsules or hard gelatin capsules is provided in Kelm '290.

McNeill teaches a device for the controlled release of active material formed from at least two interpenetrating pieces. The device may be a capsule containing an active material where the capsule is formed from a male portion and a female piece. The male portion is made of a material that is water swellable and therefore swells upon contact with water so as to disengage from the female piece and release the active material. McNeill teaches that a preferred construction of the female piece of the device may be a capsule that is coated with specific materials. Col. 6, lines 1-30. McNeill teaches that this portion of the device may be a capsule that is made of a conventional hard gelatin or starch coated with a specific solution of certain polymers. Col. 6, lines 17-21. McNeill does not teach, as the Examiner asserts, that hard gelatin capsules and starch capsules are a "conventional class of capsules," nor does it teach that such capsules are "substantially equivalent."

The Examiner has failed to meet all necessary elements to establish a *prima facie* case of obviousness. The Kelm '290 does not teach or suggest use of a starch capsule. McNeill does not remedy this deficiency, as it teaches a device formed from at least two interpenetrating pieces where the female piece may be a gelatin or a starch capsule having a specified coating.

Further, there is no motivation in the art references to make the combination as taught by the Examiner. McNeill does not teach that a starch capsule and a gelatin capsule are a "class" or category of capsules. Rather, McNeill discloses that starch and gelatin capsules are preferred for use in the very specific two-part McNeill drug delivery device. In fact, upon review of the references, a person of skill would not have made the combination suggested by the Examiner. Kelm '290 strongly emphasizes that the dosage form selected for use in the

invention is a form that has no uneven, sharp, or non-contiguous edges, as such imperfections in the surface of the dosage form will result in inconsistent coating thicknesses, which in turn will degrade the efficacy of the Kelm '290 system, as the bisacodyl will be released from the composition prior to the desired delivery time. The device taught in McNeill, in contrast, delays release of the drug by virtue of its architecture; the contents of the female piece are not released until the male portion of the device has undergone swelling, and is ejected from the female capsule. A person of skill would have had no reason to substitute the female piece starch capsule of McNeill with the soft gelatin capsule of Kelm '290, as there is no teaching, or suggestion in either of the references that use of a generic starch capsule would be suitable for use as the Kelm '290 dosage form, for which the specified physical properties are required. Further, given such deficiencies, there a person of skill would have had no reasonable expectation that such combination would be successful.

Thus, the combination suggested by the Examiner does not teach or suggest the invention. It is requested that the Examiner reconsider and withdraw the rejection.

VI. Rejection Under 35 U.S.C. § 103(a) Based Upon Kelm and Digenis.

The Examiner has rejected claims 1-13 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Kelm '290 and Digenis. Kelm, according to the Examiner, teaches a pharmaceutical dosage form for colonic delivery comprising a drug encapsulated in a hard capsule with coating layers which dissolve at a pH of above 5. Digenis, according to the Examiner, teaches a hard coated gelatin capsule made from gelatin or starch suitable for colonic delivery of peptide drugs. Thus, the Examiner reasons it would have been *prima facie* obvious for one of ordinary skill in the art to modify Kelm '290 capsule in view of the teaches of Digenis since Digenis teaches that "the hard gelatin capsule can be starch."

Similar to the situation discussed above, the applicant notes that it is not precisely clear whether the Examiner is applying Kelm '290 or Kelm '106 in her underlying reasoning for this § 103 rejection. Because the Examiner expressly states that "Kelm is relied upon for the reasons stated above," the applicant has assumed that the Kelm reference referred to in this rejection is Kelm '290, which is the reference "above." If the applicant's assumption is correct, he requests that the Examiner expressly state which Kelm reference she is relying upon, and not make such rejection final.

Further, the applicant submits that in view of the arguments submitted below the claims are patentable over the Kelm'290-Digenis combination. However, the presentation of such arguments is in no way an admission that the references cited are prior art under any subsection of § 102(e). The applicant reserves the right to assert that Kelm '290 is not prior art to the present application in a future response, one he has had an opportunity to secure and review copies of the ancestor applications from which Kelm '290 claims the benefit of priority.

Digenis teaches a multi-compartment hard capsule with control release properties that may be made from a material such as gelatin, starch or a hydrophilic polymer. In an embodiment, the Digenis multi-compartment hard capsule can be used to deliver peptide drugs to the colon. The delayed delivery or sequential delivery of several drugs is achieved as function of the combination of the physical properties of the materials which constitute the compartments of the capsule.

Based upon this combination, the Examiner has failed to demonstrate a *prima facie* case of obviousness. Kelm '290 strongly emphasizes that the dosage form selected for use in the invention is a form that has no uneven, sharp, or non-contiguous edges, as such imperfections in the surface of the dosage form will result in inconsistent coating thicknesses, which in turn will degrade the efficacy of the Kelm '290 system, as the bisacodyl will be released from the composition prior to the desired delivery time. No concern is given to such considerations in Digenis – it is only necessary that the capsule can be formed in such a way as to allow for the multi-compartmentalization structure to be present. Thus, a person of skill would not have been motivated to make the combination suggested by the Examiner, nor would he have had any reasonable expectation that such combination would have been successful, given the teachings in either reference.

Accordingly, for at least the reasons given above it is respectfully requested that the Examiner reconsider and with drawn the rejection.

CONCLUSION

For at least the reasons above, it is respectfully submitted that claims 1-13 are allowable over all prior art of record. Further, should the Examiner withdraw the rejection and find generic claim 1 allowable, it is respectfully requested that claims 14-17 be rejoined and examined.

Respectfully submitted,

PETER WATTS

19 december 2002 (Date)

By: Kristyne A. Bullock

KRISTYNE A. BULLOCK
Registration No. 42,371
AKIN, GUMP, STRAUSS, HAUER & FELD, L.L.P.
One Commerce Square
2005 Market Street - Suite 2200
Philadelphia, PA 19103-7086
Telephone: (215) 965-1200
Direct Dial: (215) 965-1348
Facsimile: (215) 965-1210

KAB/vj

Enclosure : *Petition for Extension of Time (One-Month)*